CLAIMS

I claim:

24. A method for a device to monitor mobility context and response to said mobility context change, the method comprising:

receiving a trigger condition from a host system, wherein said trigger condition defines a trigger state of said mobility context;

storing said trigger condition in a said device;

monitoring current state of said mobility context;

evaluating trigger condition with said current state; and

transmitting a signal to said host system if said current state satisfied the criteria of said trigger condition.

25. The method of claim 24, further comprising waking up said host system from power saving mode by said signal.

26. The method of claim 24, further comprising:

associating a job with said trigger condition; and

executing said job on said host system after said signal is received by said host system.

27. The method of claim 26, further comprising:

associating a callback identifier with said trigger condition and said job;

storing said callback identifier; and

transmitting said callback identifier to said host system if said current state satisfied the criteria of said trigger condition.

28. The method of claim 24, wherein said mobility context is selected from the following group consisting of location context and proximity context.

29. The method of claim 28, wherein said location context is the current position of said device in a referencing position system.

30. The method of claim 29, wherein said referencing position system is Global Positioning System (GPS) referencing position system.

5   31. The method of claim 30, wherein said monitoring current state further comprising:
        receiving positioning information; and
        determining said current position of said device from said positioning
        information.

32. The method of claim 31, wherein said trigger condition is an area and said trigger
10   condition is satisfied if said current position falls in said area.

33. The method of claim 28, wherein said proximity context is the presence of one or more other wireless communication interfaces in proximity of said device.

34. The method of claim 33, wherein said monitoring current state further comprising:
        receiving message on wireless media; and
15   decoding said message according to a communication protocol.

35. The method of claim 34, wherein said other wireless communication interface in proximity of said device becomes present if the identifier of said other wireless communication interface is decoded from said message by said device.

36. The method of claim 35, wherein said trigger condition is a rule of presence of one or
20   more trigger identifiers that designate said other wireless communication interfaces in proximity of said device, and said trigger identifier becomes present when said trigger identifier is decoded from in said message.

37. The method of claim 36, wherein said rule of presence is a Boolean equation.

38. The method of claim 36, further comprising recording the last receiving time of said trigger identifier, wherein said last receiving time determines the presence of said trigger identifier.

39. The method of claim 36, wherein said protocol includes a media access control sub
5   layer protocol and said trigger identifier is an identifier used by said media access control sub layer protocol.

40. The method of claim 39, wherein said trigger identifier is a media access control address.

41. The method of claim 36, wherein said protocol includes Internet protocol layer and
10   said trigger identifier is an identifier used by said Internet protocol layer.

42. The method of claim 41, wherein said trigger identifier is an Internet protocol (IP) address.

43. The method of claim 33, wherein said wireless communication interface complies with the protocol selected from the following group consisting of IEEE 802.11a/b/g,
15   BlueTooth Technology, GSM, CDMA, GPRS, RFID, IrData, and UWB.

44. A computing device to monitor mobility context and response to a mobility context change comprising:

        at least one receiver for receiving the current state of said mobility context;

        a trigger condition that defines a trigger state of said mobility context;

20   a memory for storing said trigger condition; and

        a checker configured to evaluate said trigger condition and output a signal when said current state meet the criteria of said trigger condition;

45. The device of claim 44, wherein said signal wakes up a host system from power saving mode.

46. The device of claim 44, further comprising an interface controller coupled to a host system, wherein said host system send said trigger condition to said device through said interface controller.

47. The device of claim 46, wherein said device send trigger condition related
5   information to said host system through said interface controller when trigger condition is satisfied.

48. The device of claim 44, wherein said signal instructs a host system to execute a job associated to said trigger condition.

49. The device of claim 48, further comprising a callback identifier that associates with
10 said trigger condition and said job, wherein said callback identifier is stored in said device and is transmitted to said host system when said trigger condition is satisfied.

50. The device of claim 44, wherein said mobility context is selected from the following group consisting of location context and proximity context.

51. The device of claim 50, wherein said location context is the current position of said
15 device in a referencing position system.

52. The device of claim 51, wherein said referencing position system is Global Positioning System (GPS) referencing position system.

53. The device of claim 51, wherein said trigger condition is an area and said trigger condition is satisfied if said current position falls in said area.

20 54. The device of claim 51, wherein said receiver contains
    a processor configured to determine the current position of said device from said
    positioning information;

55. The device of claim 50, wherein said proximity context is the presence of one or more other wireless communication interfaces in proximity of said device.

56. The device of claim 55, wherein said receiver contains

5   a processor for decoding message on wireless media according to a communication protocol;

57. The device of claim 56, wherein said processor further comprises:

a baseband processor for decoding said message in physical layer of said protocol; and

10   a media access control controller for decoding said message in media access control sub layer of said protocol.

58. The device of claim 56, wherein said other wireless communication interfaces in proximity of said device becomes present if the identifier of said other wireless communication interface is decoded from said message by said processor.

59. The device of claim 58, wherein said trigger condition is a rule of presence of one or

15   more trigger identifiers that designate other wireless communication interfaces in proximity of said device, and said trigger identifier becomes present if said trigger identifier is decoded from said message by said processor.

60. The device of claim 59, wherein said rule is Boolean equation.

61. The device of claim 59, further comprising means for recording the last receiving

20   time of said trigger identifier, wherein said last receiving time determines the presence of said trigger identifier.

62. The method of claim 59, wherein said protocol includes a media access control sub layer protocol and said trigger identifier is an identifier used by said media access control sub layer protocol.

63. The device of claim 62, wherein said trigger identifier is a media access control address of said protocol.

64. The method of claim 59, wherein said protocol includes Internet protocol layer and said trigger identifier is an identifier used by said Internet protocol layer.

5   65. The method of claim 64, wherein said trigger identifier is an Internet protocol (IP) address.

66. The device of claim 55, wherein said wireless communication interface complies with the protocol selected from the following group consisting of IEEE 802.11a/b/g, BlueTooth Technology, GSM, CDMA, GPRS, RFID, IrData, and UWB.

10   67. A method for receiving a trigger identifier comprising:

   receiving an instruction;

   receiving an data packet by a wireless communication interface and the transmitter address field and the receiver address field of said data packet contain the same identifier that designates to another wireless communication interface;

15   decoding said identifier from said data packet; and

   using said identifier in a trigger condition to trigger a job execution.

68. The method of claim 67, further comprising:

   giving a time delay tolerance, wherein said identifier is used in trigger condition only if the time difference between receiving said identifier and receiving said

20   instruction is within said time delay tolerance.